

Form 312 requesting a license or modification to operate such station.

(2) Receive-only earth stations used to receive transmissions from non-U.S.-licensed space stations on the Permitted Space Station List need not file for licenses, provided that:

(i) The earth station antenna meets the antenna performance standards set forth in §§ 25.209(a) and (b), and

(ii) The space station operator and earth station operator comply with all applicable rules set forth in this chapter, and the conditions on the Permitted Space Station List applicable to that space station.

[56 FR 24016, May 28, 1991, as amended at 61 FR 9952, Mar. 12, 1996; 62 FR 5929, Feb. 10, 1997; 62 FR 64172, Dec. 4, 1997; 65 FR 58466, Sept. 29, 2000; 67 FR 12485, Mar. 19, 2002; 68 FR 62249, Nov. 3, 2003; 68 FR 63999, Nov. 12, 2003; 69 FR 29901, May 26, 2004; 69 FR 47795, Aug. 6, 2004; 70 FR 32253, June 2, 2005; 78 FR 8421, Feb. 6, 2013]

#### **§ 25.132 Verification of earth station antenna performance standards.**

(a)(1) All applications for transmitting earth stations, except for earth stations operating in the 20/30 GHz band, must be accompanied by a certificate pursuant to § 2.902 of this chapter from the manufacturer of each antenna that the results of a series of radiation pattern tests performed on representative equipment in representative configurations by the manufacturer demonstrates that the equipment complies with the performance standards set forth in § 25.209. The licensee must be prepared to demonstrate the measurements to the Commission on request.

(2) All applications for transmitting earth stations operating in the 20/30 GHz band must be accompanied by the measurements specified in §§ 25.138(d) and (e).

(b)(1) In order to demonstrate compliance with § 25.209 (a) and (b), the following measurements on a production antenna performed on calibrated antenna range, as a minimum, shall be made at the bottom, middle and top of each allocated frequency band and submitted to the Commission:

(i) Co-polarized patterns for each of two orthogonal senses of polarizations in two orthogonal cuts of the antenna.

(A) In the azimuth plane, plus and minus 7 degrees and plus and minus 180 degrees.

(B) In the elevation plane, zero to forty-five degrees.

(ii) Cross-polarization patterns in the E- and H-planes, plus and minus 9 degrees.

(iii) Main beam gain.

(2) The FCC envelope specified in § 25.209 shall be superimposed on each pattern. The minimum tests specified above are recognized as representative of the performance of the antenna in most planes although some increase in sidelobe levels should be expected in the spar planes and orthogonal spar planes.

(3) Applicants seeking authority to use an antenna that does not meet the standards set forth in §§ 25.209(a) and (b), pursuant to the procedure set forth in § 25.220, § 25.221, § 25.222, § 25.223 or § 25.226, are required to submit a copy of the manufacturer's range test plots of the antenna gain patterns specified in paragraph (b)(1) of this section.

(c) The tests specified in paragraph (b) of this section are normally performed at the manufacturer's facility; but for those antennas that are very large and only assembled on-site, on-site measurements may be used for product qualification data. If on-site data is to be used for qualification, the test frequencies and number of patterns should follow, where possible, the recommendations in paragraph (b) of this section, and the test data is to be submitted in the same manner as described in paragraph (a) of this section.

(d) For each new or modified transmitting antenna over 3 meters in diameter, the following on-site verification measurements must be completed at one frequency on an available transponder in each frequency band of interest and submitted to the Commission.

(1) Co-polarized patterns in the elevation plane, plus and minus 7 degrees, in the transmit band.

(2) Co-polarized patterns in the azimuth and elevation planes, plus and minus 7 degrees, in the receive band.

(3) *System cross-polarization discrimination on-axis.* The FCC envelope specified in § 25.209 shall be superimposed on each pattern. The transmit patterns

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are to be measured with the aid of a co-operating earth station in coordination with the satellite system control center under the provisions of § 25.272.

(e) Certification that the tests required by paragraph (c) of this section have been satisfactorily performed shall be provided to the Commission in notification that construction of the facilities has been completed as required by § 25.133.

(f) Antennas less than 3 meters in diameter and antennas on simple (manual) drive mounts that are operated at a fixed site are exempt from the requirements of paragraphs (c) and (d) of this section provided that a detailed technical showing is made that confirms proper installation, pointing procedures, and polarization alignment and manufacturing quality control. These showing must also include a plan for periodic testing and field installation procedures and precautions.

(g) Records of the results of the tests required by this section must be maintained at the antenna site or the earth station operator's control center and be available for inspection.

[58 FR 13419, Mar. 11, 1993, as amended at 69 FR 5710, Feb. 6, 2004; 70 FR 32253, June 2, 2005; 72 FR 50028, Aug. 29, 2007; 74 FR 47102, Sept. 15, 2009; 74 FR 57098, Nov. 4, 2009]

EFFECTIVE DATE NOTE: At 78 FR 14926, Mar. 8, 2013, § 25.132 was amended by revising paragraph (b)(3), effective upon approval by the Office of Management and Budget. For the convenience of the user, the revised text is set forth as follows:

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\* \* \* \* \*

(b) \* \* \*

(3) Applicants seeking authority to use an antenna that does not meet the standards set forth in § 25.209(a) and (b), pursuant to the procedure set forth in § 25.220, § 25.221, § 25.222, § 25.223, § 25.226 or § 25.227, are required to submit a copy of the manufacturer's range test plots of the antenna gain patterns specified in paragraph (b)(1) of this section.

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### § 25.133 Period of construction; certification of commencement of operation.

(a)(1) Each license for an earth station governed by this part, except for mobile earth stations, shall specify as a condition therein the period in which construction of facilities must be completed and station operation commenced. Construction of the earth station must be completed and the station must be brought into operation within 12 months from the date of the license grant except as may be determined by the Commission for any particular application.

(2) Each license for mobile earth stations shall specify as a condition therein the period in which station operation must be commenced. The networks in which the mobile earth stations will be operated must be brought into operation within 12 months from the date of the license grant except as may be determined by the Commission for any particular application.

(b)(1) Each license for a transmitting earth station included in this part, except for earth stations licensed under a blanket licensing provision, shall also specify as a condition therein that upon the completion of construction, each licensee must file with the Commission a certification containing the following information:

- (i) The name of the licensee;
- (ii) File number of the application;
- (iii) Call sign of the antenna;
- (iv) Date of the license;

(v) A certification that the facility as authorized has been completed and that each antenna facility has been tested and is within 2 dB of the pattern specified in § 25.209, § 25.135 (NVNG MSS earth stations), or § 25.213 (1.6/2.4 GHz Mobile-Satellite Service earth stations);

(vi) The date on which the earth station became operational; and

(vii) A statement that the station will remain operational during the license period unless the license is submitted for cancellation.

(2) For earth stations authorized under any blanket licensing provision in this chapter, a certification containing the information in paragraph (b)(1) of this section must be filed when the network is put into operation.